

EXHIBIT BB

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**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

AQUA PENNSYLVANIA WASTEWATER, INC.

DOCKET NO. A-2023-3041695

AQUA STATEMENT NO. 4

**DIRECT TESTIMONY OF
SUMIT NAIR**

**With Regard To
Cybersecurity
Public Benefits**

April 2025

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1 **I. INTRODUCTION**

2 **Q. Please state your name and business address.**

3 A. My name is Sumit Nair. My business address is 762 W. Lancaster Ave., Bryn Mawr, PA
4 19010.

5

6 **Q. By whom are you employed and in what capacity?**

7 A. I am employed by Essential Utilities, Inc., (“Essential”) as Chief Information Officer
8 (“CIO”).

9

10 **Q. Please provide a brief description of your education and work experience.**

11 A. I am an experienced technology professional with three decades of expertise in technology,
12 specializing in the design, engineering, and operations business applications and the
13 supporting infrastructure. In 2004, I earned a Bachelor’s of Engineering in Computer
14 Science and Engineering from Bangalore University in India. I also earned a Master’s of
15 Science in Information Systems from the Pennsylvania State University.

16 In 1994, I started my career as a software engineer. Since then, I have moved on to
17 various leadership roles over the span of three decades. I have served as an executive and
18 senior leader in Information Technology (“IT”) for the last 15 years. Over the last six years,
19 I have also served in the capacity of CIO for a highly regulated health insurance company
20 and now in the utilities industry.

21 Over the course of my career, I have managed and been accountable for business
22 application teams, infrastructure, network and telecommunication, project management,

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1 service desk and information security teams. I have worked in various industries such as
2 consulting, discrete manufacturing environment, financial, measurement, health insurance
3 and utilities.

4 My career has been a journey of progressive growth in IT leadership and strategy
5 roles. My first leadership role started at IKON Office Solutions Inc. in 2004, where I led
6 the reorganization of IT teams and the implementation of a unified Oracle ERP system. At
7 De Lage Landen, from 2007 to 2013, I initially served as Director of Software
8 Development and Director of Development and Deployment. In these roles, I oversaw the
9 unification of global IT processes, standardized systems, and managed a global delivery
10 model.

11 In 2013, I took on the role of Vice President of Application Services at the National
12 Board of Medical Examiners. Here, I drove the adoption of Agile methodologies and
13 improved system availability. I was also instrumental in developing the organization's first
14 mobile app and establishing a data warehousing and business analytics group. These
15 initiatives not only contributed to revenue growth but also reduced costs, reinforcing my
16 focus on strategic transformation and efficiency.

17 From 2019 to 2022, I served as CIO at GeoBlue, where I aligned IT strategies with
18 business objectives, enhanced cybersecurity measures, and fostered a culture of continuous
19 improvement. Since 2022, I've been the CIO at Essential, where I oversee critical IT
20 operations and lead innovative initiatives like deploying a customer portal and mobile app,
21 and piloting generative AI technologies.

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1 **Q. Do you hold any professional licenses or certifications?**

2 A. No.

3

4 **Q. Have you previously testified before the Pennsylvania Public Utility Commission**
5 **(“PUC” or the “Commission”)?**

6 A. Yes. I adopted the Direct Testimony of John Childers and provided Rebuttal Testimony in
7 Aqua Pennsylvania Wastewater, Inc.’s (“APW”) application to acquire the assets of the
8 Greenville Sanitary Authority.

9

10 **Q. What is the purpose of your Direct Testimony?**

11 A. The purpose of my Direct Testimony is to discuss (i) Essential’s and Aqua Pennsylvania
12 Inc.’s (“Aqua”) cybersecurity programs generally, (ii) the cybersecurity capabilities
13 currently in place in the Greenville Water Authority (“GWA”) water system (“the
14 System”); and (iii) the public benefits of this transaction.

15

16 **Q. Are you sponsoring any Exhibits with the Company’s filing?**

17 A. No.

18

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1 **II. CYBERSECURITY GENERALLY**

2 **Q. Is cybersecurity a significant concern for utilities, utility customers, and utility**
3 **commissions?**

4 A. Yes. Cybersecurity has become a main focal point for many utilities and utility
5 commissions in recent years as threats of cyber-attacks on utilities have increased. The
6 PUC recently issued an Advanced Notice of Proposed Rulemaking Order on November
7 10, 2022 to review cybersecurity regulations and reporting.¹ Other utility commissions
8 across the country have instituted similar reporting and cybersecurity regulations to ensure
9 that the critical infrastructure that serves the public is protected from threat actors.
10 Ensuring that critical infrastructure and customer information are properly protected is an
11 essential part of utility service and a key benefit to customers across the Commonwealth.

12

13 **Q. Please discuss recent cyber events in the utility industry.**

14 A. Several attacks have occurred recently on public utilities and other critical infrastructure
15 industries, which I will briefly describe below.

16 1. Long Beach, New Jersey. On April 22, 2024, Russian hacktivist group
17 CyberArmyofRussia_Reborn (CARR) released a video claiming responsibility for
18 a cyber-attack on a water utility located in Long Beach Township, New Jersey. The
19 video evidence showed the group attempting to alter well pump settings. The
20 actions that were taken by CARR could have resulted in damage to property, denial
21 of control, manipulation of control, and loss of availability. This compromise

¹ *Rulemaking to Review Cyber Security Self-Certification Requirements and the Criteria for Cyber Attack Reporting*, Advanced Notice of Proposed Rulemaking Order, Docket No. L-2022-3034353 (Nov. 10, 2022).

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1 further emphasizes the importance of secure configuration management and secure
2 remote access.

3 2. Aliquippa, Pennsylvania. On November 26, 2023, an Iranian-backed hacktivist
4 group, the Cyber Av3ngers, successfully compromised a booster station that
5 belonged to the Municipal Water Authority of Aliquippa. The group exploited
6 internet-facing Unitronics Programmable Logic Controllers (“PLC”) that were
7 implemented without proper authentication which allowed the group to gain
8 unauthorized access. The attack led to disabling of the water monitoring system
9 with messages being displayed stating the compromise. This intrusion highlights
10 the importance of proper configuration and hardening techniques that mitigate the
11 risk of improperly protected access controls.

12 3. Oldsmar, Florida. On February 5, 2021, an intrusion was reported in a water
13 treatment plant that provides service to approximately 15,000 customers. While
14 initially it was reported that a threat actor adjusted the levels of Sodium Hydroxide
15 in the water treatment process, modifying the parameter from 100 parts per million
16 (“ppm”) to 11,100 ppm, it was later suggested to be based on employee error;
17 however, there is no definitive guidance confirming. This type of intrusion is
18 possible through a combination of insecure remote access and poor maintenance of
19 the critical process control related systems used to monitor and manage the water
20 treatment.

21 4. San Francisco, California. On January 15, 2021, a remote access intrusion occurred
22 to the process control environment, in which Supervisory Control and Data

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1 Acquisition (“SCADA”) software was deleted. In this instance, a former
2 employee’s credentials were used to access a TeamViewer to affect the intrusion.

3 5. Rye Brook, New York. In 2013, the U.S. Justice Department charged seven Iranian
4 government affiliated individuals in attempted cyber-attacks involving a small dam.
5 While there was no direct negative impact, as the dam sluice gate system was
6 reported to have been disconnected from the SCADA control system, this provides
7 an example of how critical infrastructure could potentially be targeted due to a
8 weakness in security hardening of control systems environments.

9

10 **III. AQUA’S CYBERSECURITY OPERATIONS**

11 **[BEGIN HIGHLY CONFIDENTIAL]**

█ █ [REDACTED]

█ █ [REDACTED]

█ [REDACTED]

█ [REDACTED]

█ [REDACTED]

█ [REDACTED]

█ [REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

8 [END HIGHLY CONFIDENTIAL]

9

10 V. CONCLUSION

11 Q. Does this conclude your Direct Testimony?

12 A. Yes, it does. However, I reserve the right to supplement my Direct Testimony as additional
13 issues and facts arise during the course of this proceeding.